UTD982590002

United States Department of the Interior
BUREAU OF INDIAN AFFAIRS
WESTERN REGION OFFICE
P.O. BOX 10
PHOENIX, ARIZONA 85001

TAKE PRIDE IN AMERICA

IN REPLY
REFER TO:
Environmental Management
602-379-3491

SEP 28 2006

Through: Superintendent, Southern Paiute Agency

Honorable Glenn Rogers

Chairman, Shivwits Band of Paiute Indians

RE: Hecla Mining Company, Pond #2 Shallow Groundwater Monitoring Well Installation and Collection and Analysis of Surface Soils and Groundwater Sampling

Dear Mr. Rogers:

The Bureau of Indian Affairs (BIA), Western Regional Office (WRO) Environmental Management has received funding for the installation of four (4) shallow groundwater monitoring wells along the perimeter of the Hecla Mining Company, Pond #2. The purpose of this investigation is to determine whether metals have migrated from Pond #2 and have impacted subsurface soils and/or shallow groundwater. This investigation will be performed by Ninyo & Moore, Inc. For further information, please refer to the enclosed scope of work.

Due to funding limitations, the proposed deep groundwater monitoring well will not be installed at this time. However, analysis of shallow groundwater in conjunction with soil sampling, as proposed, should demonstrate the occurrence of any off-site contamination, if any, beyond the Pond #2 disposal area. Initial assessment activities will be performed in subsequent years to assure the isolation of waste materials from trust resources.

During the installation of each shallow well, Ninyo & Moore, Inc. will collect soil samples at five foot increments at depths between zero and thirty feet. Following soil collection, monitoring well installation and groundwater purging, groundwater samples will be collected from each well. Soil and groundwater samples will be submitted by Ninyo & Moore, Inc. to an accredited laboratory and analyzed for metals, petroleum hydrocarbons, volatile organic compounds (VOCs), and semi-volatile organic compounds (SVOCs). No investigative derived wastes (either soils or wastewater) will be stored or disposed of on the premises during the investigation.

As you are aware, Ninyo and Moore plans to commence field activities the week of October 2, 2006. Tribal representation during this time is not required, although tribal participation is welcomed and encouraged to participate. Should you have any specific questions with scheduling and project coordination, you may contact Mr. Greg Beck, Senior Environmental Scientist, Ninyo & Moore, Inc. directly at (702) 433-0330

Please also feel free to contact Mr. John F. Krause, BIA WRO Regional Environmental Scientist, or Mr. John F. Graves, Jr. BIA WRO Environmental Project Manager at (602) 379-3723.

Sincerely

/s/ Allen I. Anspach

Regional Director

Enclosure

cc: -Lora Tom, Chairperson
Paiute Indian Tribe of Utah Tribal Council
-Kellie Youngbear, Superintendent
Southern Paiute Agency
-Carolyn Bowker, Realty Specialist
-Dan Jackson, Acting Field Solicitor
-Eric Johnson, Environmental Specialist (w/encl)
EPA Region 8 (8ENF-RC)
-Paul Glader, Manager (w/encl)
Environmental Services
Hecla Mining Company

Scope of Work
Modification #1 to Purchase Order: SMH00040268
Hecla Mining Company Pond #2 Closure
August 14, 2006

Background

Hecla Mining Company (Hecla) has disposed of approximately 23,000 cubic yards of leach tailings on tribal lands of the Shivwits Band (the Band) of Southern Paiute Indians. Although metal concentrations of the tailings exceed regulatory limits established by the U.S. Environmental Protection Agency (EPA), the EPA approved Hecla's Closure Plan for on-site encapsulation of the tailings within an unlined impoundment that was historically used as a containment pond (Pond #2) during Hecla's active period of operations. The approved Closure Plan does not include groundwater monitoring for detection of possible offsite migration of contaminants; disconcertion by both Bureau of Indian Affairs (BIA) and the Band with the implemented "cap-in-place" closure alternative and suspicion of immediate or long-term injury to trust resources necessitates further investigation, which may substantiate the removal and off-site disposal of tailings from tribal lands.

In August, 2004, BIA retained the services of Ninyo and Moore (the contractor) to provide technical support to the Band for review of the OMG and Hecla Closure Plans and development of contaminant remediation levels for the OMG site. As a modification to the existing contract, the contractor is proposing to collect soils samples from areas around Pond #2 and characterize contamination caused by past releases of hazardous levels of metals. Several exploratory borings will be developed into shallow and deep aquifer groundwater monitoring wells, which will allow for immediate and long-term sampling and analysis of groundwater for contaminants associated with the impoundment.

Scope of Work

The objective of this scope of work (SOW) is to collect and analyze soil and shallow and deep groundwater samples from locations near the Hecla Pond #2 impoundment, and to report the results of the investigation to BIA WRO. This SOW involves completion of the following three Tasks:

- Task 1 – Soil Sampling and Monitoring Well Installation
- Task 2 – Soil and Groundwater Laboratory Analysis
- Task 3 – Reporting

Work Specifications

- Task 1 – Soil Sampling and Monitoring Well Installation

1a) Shallow Monitoring Wells

Four (4), minimum 8-inch diameter, exploratory soils borings will be drilled, using a hollow-stem auger drilling method, at the approximate locations shown on the attached boring location map (Figure 1). One boring will be located at each of the two previously reported seepage areas, at the southwest and east sides of Pond #2. A third boring will be located on the north side of Pond #2. The exploratory borings will be drilled to a depth approximately five (5) feet below the top of the siltstone and sandstone bedrock of the Moenkopi Formation, which is reported at a depth of approximately 20-30 feet below ground surface (bgs). The preferred locations of these wells are nearest to the pond and the former seepage areas. It is assumed that access can be obtained for placement of the wells within the Hecla lease boundary. The well locations may be moved if the topography has been altered by site closure, or if the wells cannot be placed inside the Hecla lease boundary.

Soil Sampling: Soil samples will be collected from the surface to the bottom of the boring at five (5) foot intervals to a depth of 20-30 feet using a drive sampler. Sampling equipment will be decontaminated between sampling events and clean sample liners will be used. A geologist will observe the drilling and prepare a field log of the materials encountered and the depths of the samples collected. Soil samples will be placed in clean glass sample jars, and labeled according to the site location, date, analysis requested, and name of the person collecting the sample, and placed on ice in an ice chest. The soils samples will be transported to and EPA-approved analytical laboratory following chain-of-custody procedures. Investigative derived wastes (IDWs) will be contained in on-site drums or tanks for disposal following receipt of soil analytical results.

Well Installation: Each of the four (4) exploratory soil boring locations will be converted to a groundwater monitoring well using 2-inch diameter Schedule 40 PVC well casing (see Figure 2 for well diagram). Approximately 10 feet of screened well casing, with a bottom and end cap, will be installed at the bottom of the well across the interface between the top of the bedrock and the overlying soil materials. There is a potential that seasonal perched groundwater might occur at the interface between the overlying alluvium and the top of the siltstone bedrock. It is anticipated that possible fluid releases from Pond #2 will likely be detected at the top of the siltstone bedrock. Solid PVC well casing will extend several feet above the ground surface.

The annulus around the screened well casing will be filled with a sand filter material to point approximately two (2) feet above the top of the well screen. Approximately two (2) feet of bentonite pellets will be place on top of the sand. The bentonite pellets will be hydrated by adding water, and a cement/bentonite grout will be placed in the annulus from the top of the bentonite pellets to the surface. A PVC slip cap will be placed on top of the well casing, and a locking, aboveground well cover will be placed over the top of the well casing. Due to an expected lack of water in the shallow wells, it is not anticipated that they will be developed following installation.

Groundwater Sampling: An electrical water level meter will be lowered into each well to measure the static water level within the well casing. If groundwater is detected in the wells, it is anticipated that it will be of limited volume. Therefore, a sample of groundwater will be collected using a clean disposable bailer without the typical prior purging of three casing volumes of water from the well. Groundwater samples will be placed in clean laboratory-supplied bottles. Each sample bottle will be labeled according to the site location, date, analysis requested, and name of the person collecting the sample. The sample will be placed on ice, in and ice chest, for transport to the analytical laboratory following chain-of-custody procedures.

1b) OPTIONAL - Deep Monitoring Well Installation

One groundwater monitoring well will be installed at a depth of between approximately 200 and 300 feet bgs. A minimum of 10-inch diameter boring will be drilled at a location on the north side of Pond #2, using air rotary casing hammer methods (see Figure 1). The reported gradient for groundwater flow in the fractured bedrock is from south to north. Therefore, the location of this well is in the anticipated downgradient groundwater flow direct from Pond #2, where impacts to deeper groundwater would most likely be detected. The location of this well may be modified based upon site access and topography.

Soil Sampling: Samples of encountered materials will be collected at the surface and at five foot intervals to a depth of 20-30 feet using a drive sampler. Each sample will be placed in clean, laboratory-supplied jars, labeled according to site location, date, analysis requested, and name of person collecting the sample. Placed on ice in and ice chest, the samples will be submitted to an EPA-approved laboratory for analysis following chain-of-custody procedures. A geologist will observe the drilling and sampling, and will prepare a field log showing the materials encountered, sample locations and groundwater conditions. IDW soil removed from 30 feet bgs will be collected, contained, and disposed of following receipt of soil analytical results.

Well Installation: In order to minimize the possibility of shallow groundwater contamination into the deep aquifer, prior to installation of the deep well an approximately 10.75 inch inside diameter steel outer casing with a cement collar will be installed from the ground surface to a depth of thirty-five (35) feet below ground surface, approximately five (5) feet into the siltstone and sandstone bedrock. The casing will be grouted in place and allowed to set up before installation of the groundwater monitoring well using 4-inch inside diameter Schedule 80 PVC casing. A screened section of well casing, with an end cap, will be installed approximately 20 feet below and 20 feet above the encountered groundwater level. Solid 4-inch inside diameter Schedule 80 PVC well casing will extend from the top of the screened section to several feet above the ground surface. Sand filter material will be placed in the annulus around the well casing from the bottom of the boring to approximately ten (10) feet above the top of the screened section. An approximate five (5) vertical feet of bentonite will be placed in the annulus above the sand filter material. The bentonite pellets will be hydrated by adding water to the borehole. A cement/bentonite grout will be place in the borehole from the top of the well casing at the surface, and a locking, aboveground, well cover will be placed over the well casing.

The well will be developed by surging and pumping to remove sediment from the well. Water will be removed from the well casing until it is relatively sediment-free. IDW water extracted from the well will be contained in on-site drums or tanks for disposal following receipt of laboratory reports on the groundwater from this well.

Groundwater Sampling: An electric water level meter will be lowered into the well to measure the static water level within the well casing. Prior to collecting a groundwater sample a minimum of three (3) casing volumes of water will be removed from the monitoring well, using a submersible pump. The temperature, pH, conductivity, and turbidity will be measure until stabilized readings are obtained. Extracted water will be placed in drums for disposal, following receipt of laboratory results. One groundwater sample will be collected from this well using the decontaminated submersible pump and clean polyethylene tubing. The groundwater sample will be placed in a clean laboratory supplied bottle. Each sample will be labeled according to the site location, date, analysis requested, and name of the person collecting the sample. The sample will be place on ice, in an ice chest, and submitted to an EPA-approved analytical laboratory following chain-of-custody procedures.

Decontamination Procedures

Augers, drilling pipe, soil samplers, submersible pumps and water level measuring equipment will be decontaminated prior to each use. Drilling and sampling equipment will be power washed and the wash water contained.

Water level measuring equipment will be washed with an Alconox Solution, or similar decontamination solution, and then rinsed with de-ionized water. New tubing will be attached to the submersible pump for sampling the deeper well. Clean soil sampling containers and water sampling bottles will be obtained from the laboratory. Decontamination rinse water will be contained in drums and disposed of by the contractor, in accordance with applicable local, state, and federal requirements.

Investigative Derived Wastes

Soil and groundwater produced during Task 1 and not submitted to laboratory for analysis are considered IDWs and are to be collected, contained, and stored onsite by the contractor. Following receipt of laboratory analysis, the contractor will prepare hazardous waste manifests or other necessary shipping and disposal documents, and dispose of IDWs in an off-site disposal facility, as appropriate. Additional confirmation soil or water sampling will be the responsibility of the contractor. Under no circumstance shall the contractor release IDWs during field activities, or leave of IDWs onsite past the completion date of this requirement.

The contractor is to complete task 1 field activities within sixty (60) calendar days from the Notice to Proceed (NTP).

- Task 2 – Soil and Groundwater Laboratory Analysis

Soils Analysis

Selected soil samples will be analyzed for RCRA-8 metals (arsenic, barium, cadmium, chromium, mercury, lead, selenium, and silver) with the addition of cobalt, copper, gallium, germanium, iron, manganese, nickel, sodium, tungsten, zinc, and calcium using EPA Methods 6010A, 6010AT, 6010BT, and 7141. For petroleum-based contaminants, samples will be analyzed for total petroleum hydrocarbons (TPH) as gasoline, diesel, motor oil, and benzene, toluene, ethlybenzene, and total xylenes (BTEX) using EPA Method 8015M. Selected samples will also be analyzed for volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) using EPA Methods 8260 and 8270, respectively.

Groundwater Analysis

Groundwater samples will be analyzed for arsenic, barium, cadmium, chromium, mercury, lead, selenium, silver, cobalt, copper, gallium, germanium, iron,

manganese, nickel, sodium, tungsten, zinc, and calcium using EPA 200 series Method. Additional analysis will include VOCs and SVOCs using EPA Methods 8260 and 8270, respectively, and gasoline, diesel, motor oil, and BTEX using EPA Method 8015M.

- Task 3 – Reporting

  The contractor will prepare five (5) copies each of draft and final reports summarizing the results of this investigation. The report will include, but not be limited to, the following:

  - Background/Operational History
  - Geologic Setting
  - Precipitation/Groundwater Flow information
  - Discussion of contaminant findings
  - Tabulated Analytical Results
  - Scaled Maps (indicating vertical and lateral contaminant migration)
  - Recommendations for further action(s)

  Analytical results will also be provided by the contractor to BIA in Microsoft Access or Excel formats.

  The contractor will submit the draft reports within ninety (90) calendar days from the NTP. Upon review and approval of the draft report, the contractor will submit final reports within (150) calendar days from the NTP.

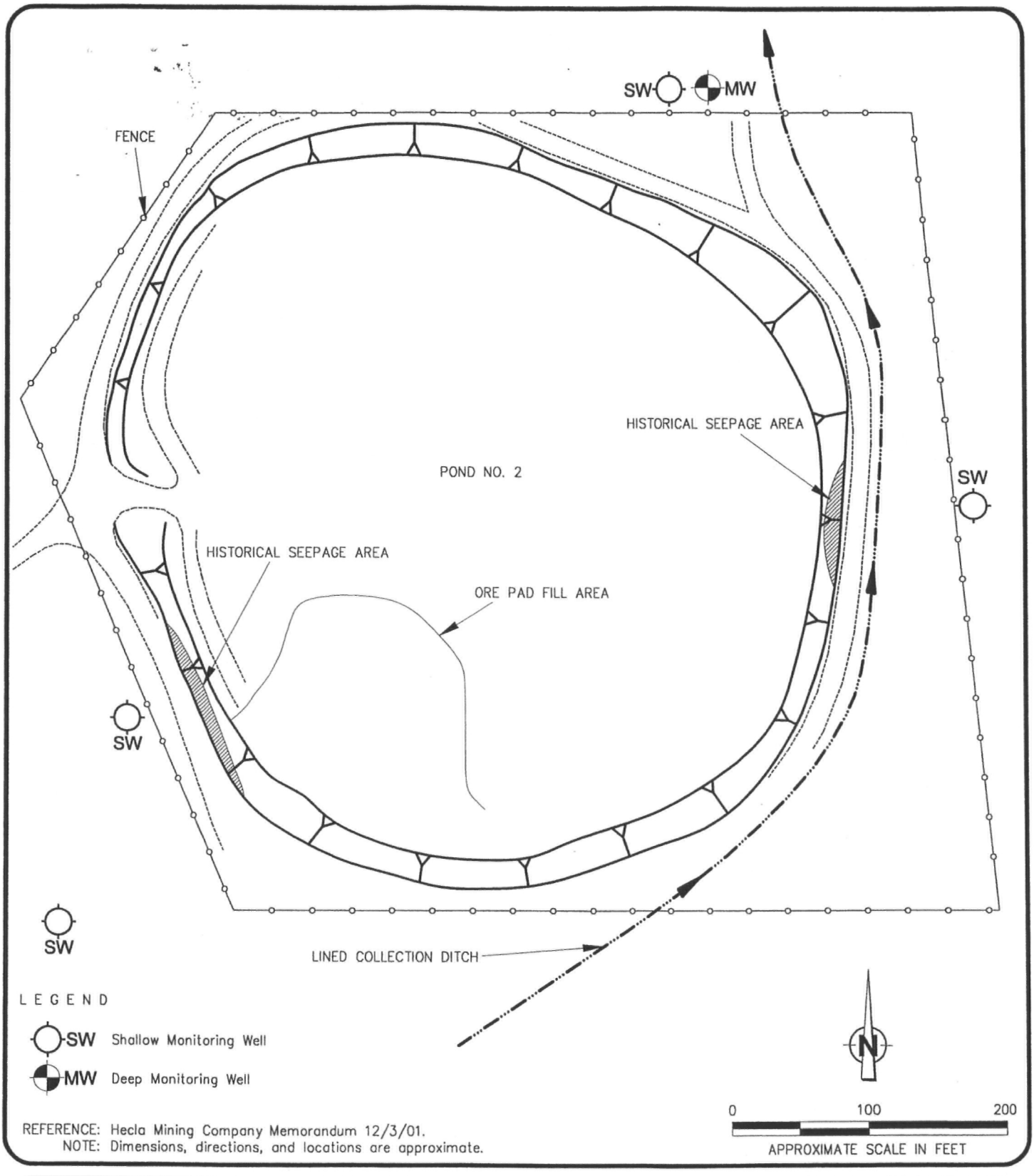
The Contractor will obtain all necessary drilling, water use, and tribal employment rights permits from the Paiute Indian Tribe of Utah. Paiute Indian Reservation, contractors will adhere to all applicable tribal laws and regulations, and payment of tribal taxes and permit fees.

Period of Performance

The contract performance period is not expected to exceed one-hundred fifty (150) days from the NTP.

Place of Performance

Field activities will be performed at the Hecla Lease Site, on the Paiute Indian Reservation west of St George, Utah.



REFERENCE: Hecla Mining Company Memorandum 12/3/01.
NOTE: Dimensions, directions, and locations are approximate.

Ninyo & Moore

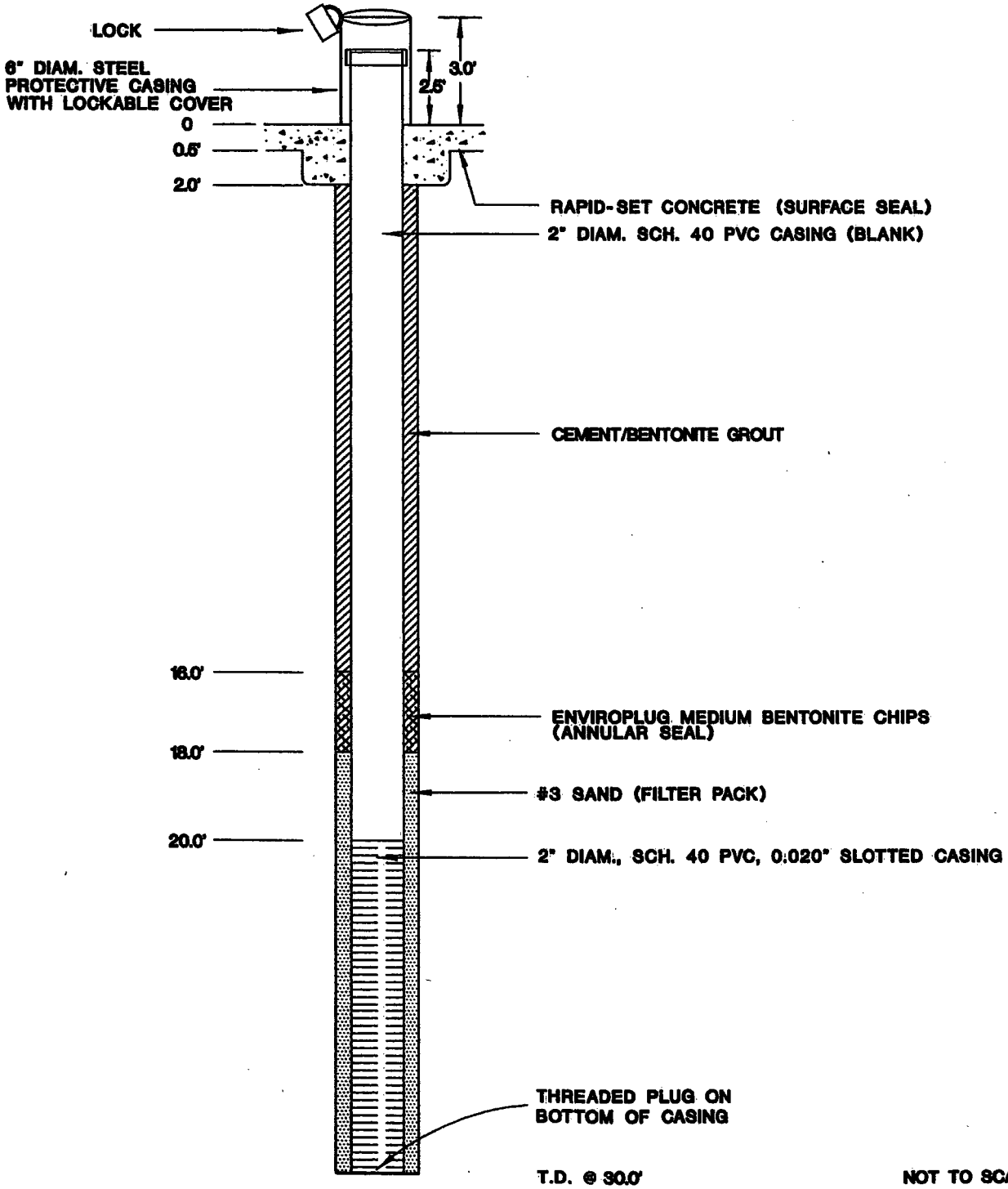
PROPOSED MONITORING WELLS

HECLA MINING COMPANY
APEX SITE POND NO. 2
ST. GEORGE, UTAH

PROJECT NO.	DATE	FIGURE
301646001	04/06	1

Ninyo & Moore

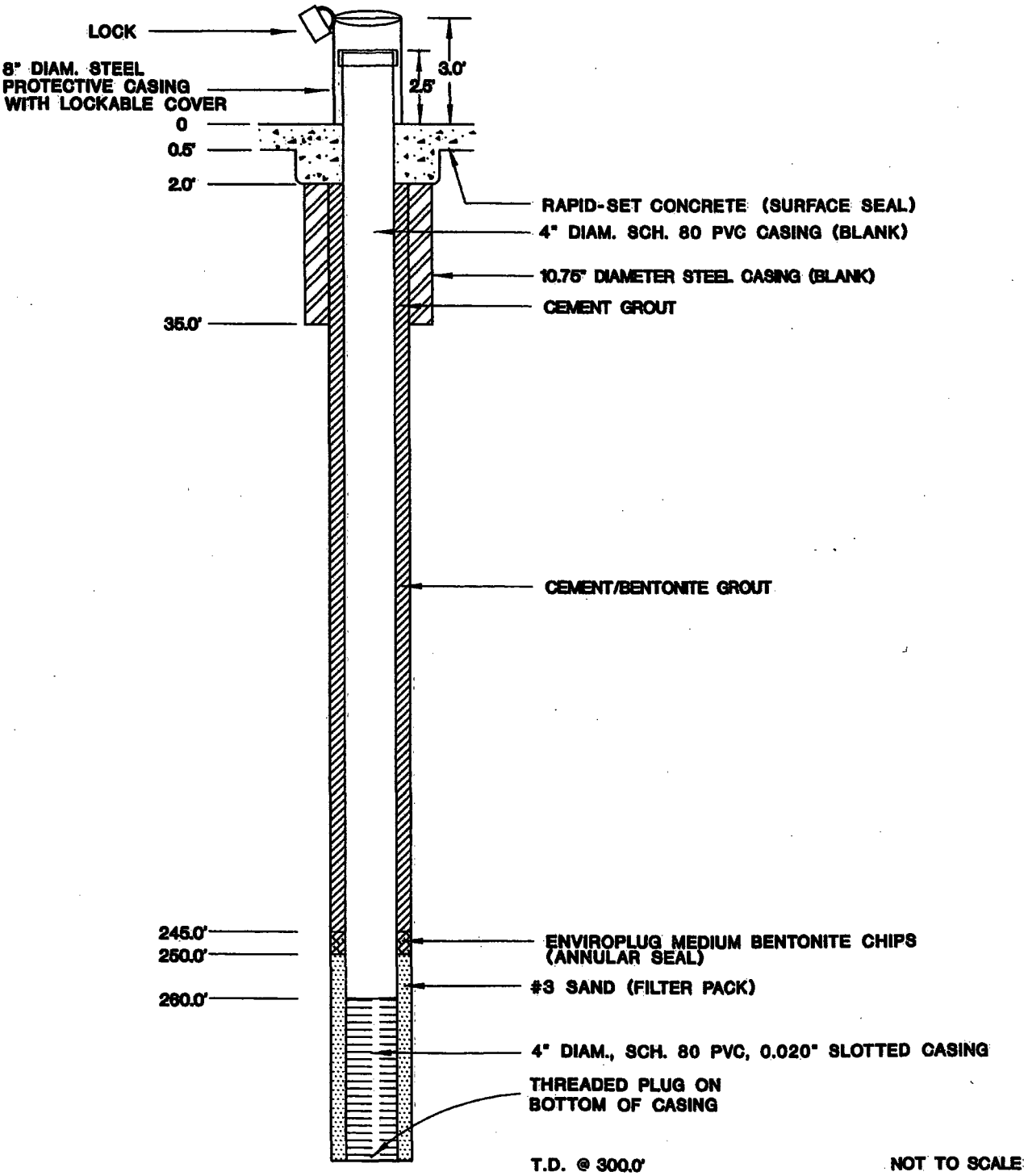
SCHEMATIC SHALLOW WELL CONSTRUCTION SUMMARY



301646001/30' well const

Ninyo & Moore

SCHEMATIC DEEP WELL CONSTRUCTION SUMMARY



301646001/300' well const